

University of Idaho
Pedology Laboratory
Soil and Land Resources Division, College of Agricultural and Life Sciences

Soil Series:

Pedon Number: 80-ID-0542

County: Benewah

Site Information:

Elevation: 803 m

Slope: 20%

Aspect: 120°

Drainage:

Collected by: Dr. Ula Moody

Classification:

Date Described: 1980

Location: SE, SW, section 23, T. 44N., R5W

Landform: middle loess covered hill

Parent Material/Geology: bedrock basalt

Vegetation: *Pinus ponderosa/Symphoricarpos albus*

Soil Temperature:

Soil Moisture:

FIELD DATA:

Lab No.	Horizon	Depth (cm)	Field Texture	Color		Structure	Consistence			Roots	Pores	Features	Efferv.	Boundary
				Dry	Moist		Dry	Moist	Wet					
1	ash	0.90											eo	
2	A	0-10											eo	

PHYSICAL DATA:

Lab No.	Particle Size Distribution (mm) – Sand						Silt	Clay	Textural Class	Water Content				
	VC	C	M	F	VF	Total	Total	Total		0.1	0.33	0.67	1	15
	(2.0-1.0)	(1.0-0.5)	(0.5-0.25)	(0.25-0.1)	0.1-0.05)	(2.0-0.05)	(0.05-0.002)	(<0.002)		Bar	Bar	Bar	Bar	Bar
	----- % -----						%	%		----- % -----				
1	0.0	0.0	0.1	1.7	14.7	16.5	81.7	1.9	Silt	49.9	38.3	20.0	16.2	5.7
*	0.0	0.0	0.0	0.8	16.2	17.0	79.1	4.0	Silt Loam					
2	0.1	0.0	0.3	2.0	7.7	10.3	77.8	11.9	Silt Loam	47.6	33.0	23.0	19.8	13.9
*	0.3	0.4	0.3	1.7	7.4	10.0	80.1	9.6	Silt					

CHEMICAL DATA:

Lab No.	pH 1:5	pH Sat.	pH NaF	Elec Cond	Avail. ² P	NH ₄ OAc _{pH 7} Exchangeable Cations ³				Exch. H ⁺	KCl-Ext. Al ³⁺	CEC _{pH 7}	ECEC ⁴	Base ⁵ Sat.	ESP ⁶	Org. C	N	C:N
						Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺									
				(dS/m)	ppm	----- cmol _c kg ⁻¹ -----						----- % -----						
1		6.45	8.85	0.24	9.1	0.44	0.24	0.20	0.27	2.5		0.9		32	22	0.27		
**						0.70	0.39	0.16	0.28			4.2		38	4			
2		5.67	8.79	0.41	5.3	4.98	1.45	0.18	0.66	10.8		18.6		40	1	3.38		
**						4.85	1.56	0.14	0.61			16.6		40	1			

CHEMICAL DATA (cont.):

Lab No.	Sat. Paste H ₂ O	Saturated Paste Extract – Soluble Ions								SAR ⁷	Gypsum	CaCO ₃	P Ret.	CBD		Pyro.		DTPA			
		Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺	CO ₃ ²⁻	HCO ₃ ⁻	Cl ⁻	SO ₄ ²⁻					Fe	Al	Fe	Al	Zn	Mn	Cu	Fe
	%	----- cmol _c kg ⁻¹ -----									----- % -----		%	----- % -----		----- % -----		----- ppm -----			
1	75	0.04	0.03	0.09	0.05	0.0	0.16	0.05	0.03					0.17	0.01			0.8	3.1	2.3	19.7
2	63	0.15	0.05	0.06	0.03	0.0	0.15	0.10	0.09					0.29	0.09			2.8	55.1	3.5	134.7

* Samples were run by the Coulter Counter method.

** CEC using the centrifuge, 80% methanol wash by Ula Moody.

1 Coarse fragments (>2mm) = (wt. coarse fragments >2mm / wt. soil + coarse fragments)*100

Note: This includes gravels, stones, & cobbles, if information is available.

2 Available phosphorus was extracted with 0.7M sodium acetate pH 4.8.

3 Extractable cations (NH₄OAc_{pH 7}) – soluble cations (saturated paste extract) = exchangeable cations Note: units are meq/100g or cmol_c kg⁻¹
If there are not any soluble cations assume extractable cations are exchangeable.

4 ECEC = Sum of cations + KCl acidity (Al³⁺ + H⁺)

5 Base Sat % = (sum of NH₄OAc bases/sum of cations + BaCl₂-TEA acidity (pH 8.2))*100

6 ESP = exchangeable sodium percent = (Exchangeable NH₄OAc_{pH 7} Na⁺/CEC_{pH 7})*100

7 SAR = sodium adsorption ratio = [Na⁺] / (([Ca²⁺] + [Mg²⁺])^{1/2}) Note: conc. are in meq/L

Note: NH₄OAc_{pH 7} = NH₄OAc at pH 7.0

CEC_{pH 7} = CEC at pH 7.0

CEC_{pH 7} solutions were obtained by leaching soil with 10% acidified NaCl. Solutions were analyzed by Technicon Autoanalyzer for N-NH₄.

Nitrogen and CEC were run on the Technicon Autoanalyzer.